

Steel <800 N/mm²

HMG Z = 2													HMG Z = 3													HMG Z = 4													HMG Z = 6												
D	fz	F	n	fz	F	n	fz	F	n	fz	F	n	fz	F	n	fz	F	n																																	
mm	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min																																	
6,0	0,010	122	6369	0,016	219	7006	0,016	278	5945	0,016	306	6539	0,024	897	9342	0,024	1345	9342																																	
8,0	0,015	147	4777	0,023	240	5255	0,023	305	4459	0,023	335	4904	0,031	874	7006	0,031	1311	7006																																	
10,0	0,020	151	3822	0,028	239	4204	0,028	304	3567	0,028	334	3924	0,037	824	5605	0,037	1237	5605																																	
12,0	0,023	149	3185	0,033	231	3503	0,033	294	2972	0,033	323	3270	0,041	772	4671	0,041	1158	4671																																	
16,0	0,029	140	2389	0,040	211	2627	0,040	268	2229	0,040	295	2452	0,049	680	3503	0,049	1020	3503																																	
20,0	0,034	129	1911	0,046	192	2102	0,046	245	1783	0,046	269	1962	0,054	606	2803	0,054	1213	2803																																	

Steel <1000 N/mm²

HMG Z = 2													HMG Z = 3													HMG Z = 4													HMG Z = 6												
D	fz	F	n	fz	F	n	fz	F	n	fz	F	n	fz	F	n	fz	F	n																																	
mm	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min																																	
6,0	0,009	91	5175	0,014	163	5693	0,014	207	4830	0,014	228	5313	0,022	668	7590	0,022	1002	7590																																	
8,0	0,016	124	3881	0,021	184	4270	0,021	234	3623	0,021	257	3985	0,029	665	5693	0,029	997	5693																																	
10,0	0,022	134	3105	0,027	185	3416	0,027	235	2898	0,027	259	3188	0,035	633	4554	0,035	950	4554																																	
12,0	0,026	135	2588	0,032	180	2846	0,032	229	2415	0,032	252	2657	0,039	597	3795	0,039	896	3795																																	
16,0	0,033	129	1941	0,039	166	2135	0,039	211	1811	0,039	232	1992	0,047	530	2846	0,047	794	2846																																	
20,0	0,039	121	1553	0,044	152	1708	0,044	193	1449	0,044	212	1594	0,052	475	2277	0,052	949	2277																																	

Steel <1300 N/mm²

HMG Z = 2													HMG Z = 3													HMG Z = 4													HMG Z = 6												
D	fz	F	n	fz	F	n	fz	F	n	fz	F	n	fz	F	n	fz	F	n																																	
mm	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min																																	
6,0	0,008	64	3981	0,013	114	4379	0,013	145	3715	0,013	159	4087	0,020	467	5839	0,020	701	5839																																	
8,0	0,015	91	2986	0,020	133	3284	0,020	169	2787	0,020	186	3065	0,027	476	4379	0,027	714	4379																																	
10,0	0,021	99	2389	0,026	135	2627	0,026	172	2229	0,026	190	2452	0,033	459	3503	0,033	689	3503																																	
12,0	0,025	101	1990	0,030	133	2189	0,030	169	1858	0,030	186	2044	0,037	436	2919	0,037	654	2919																																	
16,0	0,033	97	1493	0,038	123	1642	0,038	157	1393	0,038	173	1533	0,045	390	2189	0,045	585	2189																																	
20,0	0,038	91	1194	0,043	113	1314	0,043	144	1115	0,043	159	1226	0,050	351	1752	0,050	702	1752																																	

Steel 12 % Cr

HMG Z = 2													HMG Z = 3													HMG Z = 4													HMG Z = 6												
D	fz	F	n	fz	F	n	fz	F	n	fz	F	n	fz	F	n	fz	F	n																																	
mm	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min																																	
6,0	0,008	32	1990	0,013	57	2189	0,013	72	1858	0,013	80	2044	0,020	234	2919	0,020	350	2919																																	
8,0	0,015	45	1493	0,020	66	1642	0,020	84	1393	0,020	93	1533	0,027	238	2189	0,027	357	2189																																	
10,0	0,021	50	1194	0,026	68	1314	0,026	86	1115	0,026	95	1226	0,033	230	1752	0,033	344	1752																																	
12,0	0,025	50	995	0,030	66	1095	0,030	85	929	0,030	93	1022	0,037	218	1460	0,037	327	1460																																	
16,0	0,033	49	746	0,038	62	821	0,038	78	697	0,038	86	766	0,045	195	1095	0,045	292	1095																																	
20,0	0,038	46	597	0,043	57	657	0,043	72	557	0,043	79	613	0,050	176	876	0,050	351	876																																	

+10%	HM107			HM108			HM108			HM109								
=	HM171			HM171			HM111			HM111			HM113			HM106		
-15%				HM173 / HM176									HM123 / HM126					

Steel <800 N/mm²

HMG 013F				HMG 737			HMG 131		
D	fz	F	n	fz	F	n	fz	F	n
m.m	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min
6,0	0,030	897	7473	0,240	9172	19108	0,216	16510	19108
8,0	0,042	931	5605	0,298	8528	14331	0,274	15680	14331
10,0	0,050	905	4484	0,342	7846	11465	0,318	14591	11465
12,0	0,058	863	3737	0,379	7235	9554	0,355	13553	9554
16,0	0,069	776	2803	0,436	6251	7166	0,412	11814	7166
20,0	0,078	701	2242	0,481	5512	5732	0,457	10474	5732

Steel <1000 N/mm²

HMG 013F				HMG 737			HMG 131		
D	fz	F	n	fz	F	n	fz	F	n
m.m	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min
6,0	0,028	668	6072	0,220	6831	15525	0,198	12296	15525
8,0	0,039	711	4554	0,278	6463	11644	0,256	11902	11644
10,0	0,048	699	3643	0,322	6002	9315	0,300	11184	9315
12,0	0,055	671	3036	0,359	5568	7763	0,337	10453	7763
16,0	0,067	608	2277	0,416	4846	5822	0,394	9179	5822
20,0	0,076	551	1822	0,461	4292	4658	0,439	8175	4658

Steel <1300 N/mm²

HMG 013F				HMG 737			HMG 131		
D	fz	F	n	fz	F	n	fz	F	n
m.m	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min
6,0	0,025	467	4671	0,200	4777	11943	0,180	8599	11943
8,0	0,037	512	3503	0,258	4614	8957	0,238	8510	8957
10,0	0,045	509	2803	0,302	4330	7166	0,282	8088	7166
12,0	0,053	493	2335	0,339	4044	5971	0,319	7611	5971
16,0	0,064	450	1752	0,396	3548	4479	0,376	6739	4479
20,0	0,073	410	1401	0,441	3159	3583	0,421	6030	3583

Steel 12 % Cr

HMG 013F				HMG 737			HMG 131		
D	fz	F	n	fz	F	n	fz	F	n
m.m	mm/z	mm/min	min	mm/z	mm/min	min	mm/z	mm/min	min
6,0	0,025	234	2335	0,200	2389	5971	0,180	4299	5971
8,0	0,037	256	1752	0,258	2307	4479	0,238	4255	4479
10,0	0,045	255	1401	0,302	2165	3583	0,282	4044	3583
12,0	0,053	246	1168	0,339	2022	2986	0,319	3805	2986
16,0	0,064	225	876	0,396	1774	2239	0,376	3369	2239
20,0	0,073	205	701	0,441	1579	1791	0,421	3015	1791

+10%									
=	HM013F			HM737			HM131		
-15%				HM747			HM130		



107

Frese extra corte a due taglienti

MG
Co10



Silmax
Norm

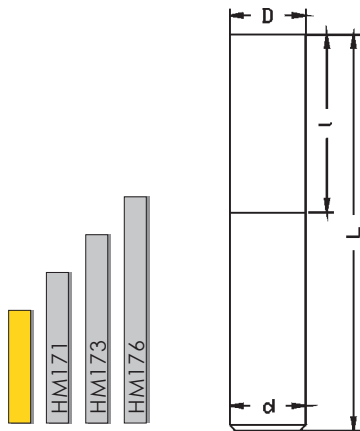
λ 30°



90°



BOX15 BOX12



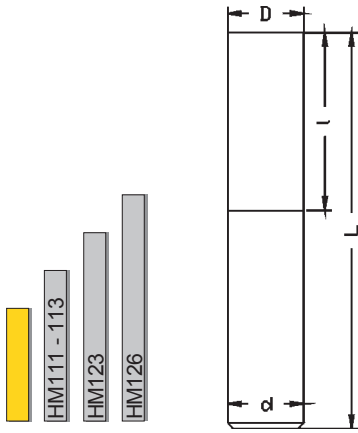
D	d	L	l	107	Uncoated	Futura	Alcrona	z	BOX15	Pcs	Uncoated	Futura	Alcrona
					HMO	HMF	HMG				HMO	HMF	HMG
h10	h6				€	€	€				€	€	€
2	6	38	3	107020	11,50	16,70	19,80	2	BOX15	15	171,90	250,30	297,00
2,5	6	38	3	107025	11,50	16,70	19,80	2					
3	6	38	4	107030	11,50	16,70	19,80	2					
3,5	6	38	4	107035	11,50	16,70	19,80	2	BOX15		107/108/109		
4	6	38	5	107040	11,50	16,70	19,80	2					
4,5	6	38	5	107045	11,50	16,70	19,80	2	BOX15		D. 2 mm 3 pcs		
5	6	38	6	107050	11,50	16,70	19,80	2			D. 3 mm 3 pcs		
6	6	38	7	107060	11,50	16,70	19,80	2			D. 4 mm 3 pcs		
7	8	43	9	107070	15,60	22,30	26,90	2			D. 5 mm 3 pcs		
8	8	43	9	107080	15,60	22,30	26,90	2			D. 6 mm 3 pcs		
9	10	50	11	107090	23,20	30,60	36,20	2					
10	10	50	11	107100	23,20	30,60	36,20	2					
									BOX12	Pcs	Uncoated	Futura	Alcrona
												€	€
									BOX12	12	185,40	258,70	306,60
									BOX12		107/108/109		
											D. 5 mm 3 pcs		
									D. 6 mm 3 pcs				
									D. 8 mm 3 pcs				
									D.10mm 3 pcs				

107	HMG	●	PARAMETRI DI TAGLIO (Cutting data) Pag.96-97			
			Steel <800 N/mm ²	Steel <1000 N/mm ²	Steel <1300 N/mm ²	Steel 12% Cr
			Vc 128	Vc 104	Vc 80	--



108 Frese extra corte a tre taglienti

109 Frese extra corte a quattro taglienti



- MG Co10**
-
- Silmax Norm**
- $\lambda 30^\circ$
-
- 90°**



- MG Co10**
-
- Silmax Norm**
- $\lambda 30^\circ$
-
- 90°**



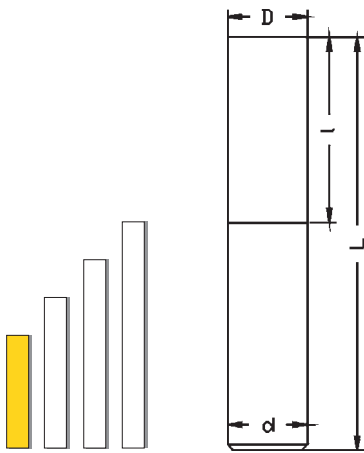
D	d	L	l		108				109					
					Uncoated	Futura	Alcra	Z	Uncoated	Futura	Alcra	Z		
h10	h6				HMO	HMF	HMG	Z	HMO	HMF	HMG	Z		
2	6	38	4		108020	11,50	16,70	19,80	3	109020	11,50	16,70	19,80	4
2,5	6	38	4		108025	11,50	16,70	19,80	3					
3	6	38	5		108030	11,50	16,70	19,80	3	109030	11,50	16,70	19,80	4
3,5	6	38	6		108035	11,50	16,70	19,80	3					
4	6	38	7		108040	11,50	16,70	19,80	3	109040	11,50	16,70	19,80	4
4,5	6	38	8		108045	11,50	16,70	19,80	3					
5	6	38	8		108050	11,50	16,70	19,80	3	109050	11,50	16,70	19,80	4
6	6	38	8		108060	11,50	16,70	19,80	3	109060	11,50	16,70	19,80	4
7	8	43	11		108070	15,60	22,30	26,90	3					
8	8	43	11		108080	15,60	22,30	26,90	3	109080	15,60	22,30	26,90	4
9	10	50	13		108090	23,20	30,60	36,20	3					
10	10	50	13		108100	23,20	30,60	36,20	3	109100	23,20	30,60	36,20	4

MAX MQL AIR	Pag.251		PARAMETRI DI TAGLIO (Cutting data) Pag.96-97				
			Steel <800 N/mm ²	Steel <1000 N/mm ²	Steel <1300 N/mm ²	Steel 12% Cr	
108	HMG	●	●	Vc 128 Vc 190	Vc 104 Vc 154	Vc 80 Vc 119	-- --
109	HMG		●	Vc 190	Vc 154	Vc 119	--



731

Frese per sedi di chiavetta



- MG**
Co10
-
- 6527K**
6528
- λ 30°
-
- 90°



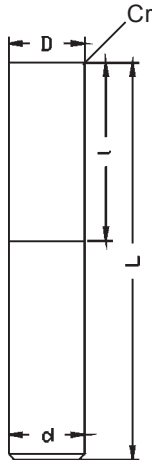
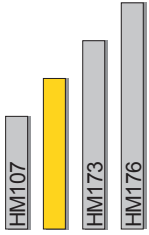
D	d	L	l	731	Uncoated	Futura	Alcrona	Z
					HMO	HMF	HMG	
e8	h6				€	€	€	
2,0	6	50	3	731020	23,70	29,30	39,80	2
2,5	6	50	3	731025	28,50	34,00	44,30	2
3,0	6	50	4	731030	23,70	29,30	39,80	2
3,5	6	50	4	731035	28,50	34,00	44,30	2
4,0	6	54	5	731040	23,30	28,80	39,20	2
4,5	6	54	5	731045	27,40	32,90	43,40	2
5,0	6	54	6	731050	22,80	28,30	38,40	2
5,5	6	54	6	731055	27,80	33,30	44,50	2
6,0	6	54	7	731060	19,00	24,40	34,60	2
7,0	8	58	9	731070	36,30	43,00	56,20	2
8,0	8	58	9	731080	28,70	35,40	48,70	2
9,0	10	66	11	731090	50,70	58,00	74,70	2
10,0	10	66	11	731100	46,30	53,70	69,80	2
12,0	12	73	12	731120	60,40	68,90	87,80	2
14,0	14	75	14	731140	87,30	96,90	119,10	2
16,0	16	82	16	731160	120,10	135,30	168,90	2
18,0	18	84	18	731180	187,20	203,50	241,60	2
20,0	20	92	20	731200	224,40	242,00	287,10	2

731	HMG	●	PARAMETRI DI TAGLIO (Cutting data) Pag.96-97			
			Steel <800 N/mm ²	Steel <1000 N/mm ²	Steel <1300 N/mm ²	Steel 12% Cr
			Vc 128	Vc 104	Vc 80	Vc 40



171 Frese a due taglienti serie normale

171 Cr Frese a due taglienti serie normale con Corner Radius



- MG Co10**
-
- 6527L 6528**
- λ 30°**
-
- 90°**



- MG Co10**
-
- 6527L 6528**
- λ 30°**
-
- Cr**



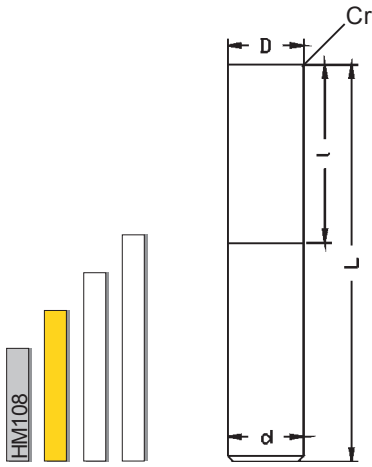
D	d	L	l	171	Uncoated			Z	Cr	Uncoated			Z
					HMO	HMF	HMG			HMO	HMF	HMG	
h10	h6				€	€	€			€	€	€	
2	3	38	5	171020	22,30	27,20	35,60	2					
2,5	3	38	7	171025	23,20	28,10	36,50	2					
3	3	38	7	171030	20,20	25,10	33,30	2	.. Cr 0,3	23,30	28,20	36,60	2
3,5	4	50	7	171035	20,30	25,30	34,90	2					
4	4	50	8	171040	17,70	22,60	32,10	2	.. Cr 0,5	20,70	25,60	35,20	2
4,5	5	50	8	171045	21,30	26,70	37,00	2					
5	5	50	10	171050	18,40	23,90	34,00	2	.. Cr 0,5	23,10	28,50	39,10	2
5,5	6	57	10	171055	24,70	30,30	41,40	2					
6	6	57	10	171060	21,40	26,90	37,90	2	.. Cr 0,5	25,60	31,10	42,30	2
7	7	60	13	171070	29,30	36,00	49,30	2					
8	8	63	16	171080	33,00	39,70	53,20	2	.. Cr 0,8	37,90	44,50	58,30	2
9	9	67	16	171090	42,50	49,50	64,70	2					
10	10	72	19	171100	51,20	59,80	76,80	2	.. Cr 1,0	54,90	63,50	80,70	2
11	11	83	22	171110	61,60	72,20	95,50	2					
12	12	83	22	171120	68,30	80,50	105,70	2	.. Cr 1,5	73,10	85,40	110,70	2
13	13	83	22	171130	79,40	92,70	121,60	2					
14	14	83	22	171140	95,20	108,50	138,20	2	.. Cr 1,5	100,10	113,50	143,50	2
15	15	92	26	171150	120,10	135,30	168,90	2					
16	16	92	26	171160	125,60	140,90	174,80	2	.. Cr 1,5	130,40	145,70	179,60	2
17	17	92	26	171170	189,30	206,50	245,00	2					
18	18	92	26	171180	183,40	200,70	238,40	2	.. Cr 1,5	188,50	205,80	243,50	2
19	19	92	26	171190	226,00	246,70	292,80	2					
20	20	104	32	171200	219,40	240,20	285,50	2	.. Cr 2,0	225,50	246,20	291,50	2

171	HMG	MAX MQL AIR	PARAMETRI DI TAGLIO (Cutting data) Pag.96-97			
			Steel <800 N/mm ²	Steel <1000 N/mm ²	Steel <1300 N/mm ²	Steel 12% Cr
			Vc 120	Vc 98	Vc 75	Vc 38
			Vc 132	Vc 107	Vc 83	Vc 41



111 Frese a tre taglienti serie normale

111 Cr Frese a tre taglienti serie normale con Corner Radius



- MG Co10**
-
- 6527L 6528**
- λ 30°**
-
- 90°**



- MG Co10**
-
- 6527L 6528**
- λ 30°**
-
- Cr**



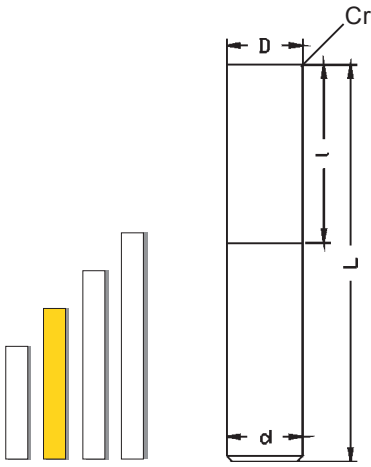
D	d	L	l	111	Uncoated	Futura	Alcrona	Z	Cr	Uncoated	Futura	Alcrona	Z
					HMO	HMF	HMG			HMO	HMF	HMG	
h10	h6				€	€	€			€	€	€	
2	3	38	5	111020	23,50	28,40	36,90	3					
2,5	3	38	7	111025	24,40	29,30	37,80	3					
3	3	38	7	111030	20,70	25,60	34,00	3	..Cr0,3	25,10	30,00	38,40	3
4	4	50	8	111040	17,70	22,60	32,10	3	..Cr0,3	22,10	26,90	36,50	3
									..Cr0,5	22,10	26,90	36,50	3
5	5	50	10	111050	20,20	25,60	36,00	3	..Cr0,5	24,40	30,00	40,30	3
6	6	57	10	111060	22,60	28,10	39,20	3	..Cr0,5	26,90	32,30	43,70	3
									..Cr0,8	26,90	32,30	43,70	3
7	7	60	13	111070	30,50	37,30	50,70	3					
8	8	63	16	111080	35,40	42,10	55,80	3	..Cr0,5	40,90	47,60	61,50	3
									..Cr0,8	40,90	47,60	61,50	3
9	9	67	16	111090	44,00	50,00	64,70	3					
10	10	72	19	111100	53,10	61,60	78,80	3	..Cr0,5	58,60	67,10	84,30	3
									..Cr1,0	58,60	67,10	84,30	3
11	11	83	22	111110	64,10	76,20	101,20	3					
12	12	83	22	111120	72,00	84,10	109,50	3	..Cr1,0	79,40	91,50	117,20	3
									..Cr1,5	79,40	91,50	117,20	3
13	13	83	22	111130	83,60	96,90	126,10	3					
14	14	83	22	111140	99,90	113,40	143,40	3	..Cr1,5	107,30	120,70	150,70	3
15	15	92	26	111150	126,80	142,00	176,00	3					
16	16	92	26	111160	137,80	153,00	187,60	3	..Cr1,5	145,10	160,30	195,40	3
18	18	92	26	111180	194,80	212,10	250,20	3	..Cr1,5	202,30	219,60	257,70	3
20	20	104	32	111200	228,60	248,10	294,40	3	..Cr2,0	237,80	257,20	303,50	3

111	HMG			PARAMETRI DI TAGLIO (Cutting data) Pag.96-97			
				Steel <800 N/mm²	Steel <1000 N/mm²	Steel <1300 N/mm²	Steel 12% Cr
				Vc 112 Vc 123	Vc 91 Vc 100	Vc 70 Vc 77	Vc 35 Vc 39



106 Frese a sei taglienti serie normale

106 Cr Frese a sei taglienti serie normale con Corner Radius



- MG Co10
- 6527L
- $\lambda 30^\circ$
- 90°



- MG Co10
- 6527L
- $\lambda 30^\circ$
- Cr



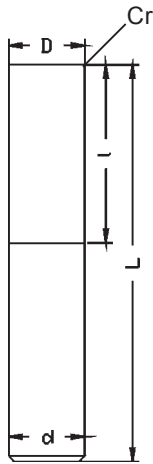
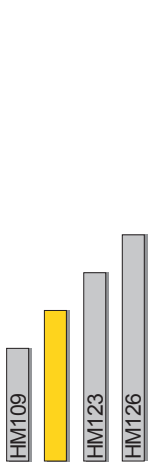
D	d	L	l	106	Uncoated	Futura	Alcrona	Z	Cr	Uncoated	Futura	Alcrona	Z
					HMO	HMF	HMG			HMO	HMF	HMG	
h10	h6				€	€	€			€	€	€	
6	6	57	13	106060	31,10	36,60	48,10	6	..Cr0,5	37,30	42,70	54,20	6
8	8	63	19	106080	43,30	50,00	64,10	6	..Cr0,8	50,70	57,30	71,80	6
10	10	72	22	106100	67,10	75,70	93,50	6	..Cr1,0	74,40	83,00	101,20	6
12	12	83	26	106120	86,00	98,30	124,30	6	..Cr1,5	95,70	108,00	134,00	6
14	14	83	26	106140	120,10	133,50	164,50	6	..Cr1,5	129,90	143,30	174,30	6
16	16	92	32	106160	159,80	175,00	210,60	6	..Cr1,5	169,50	184,70	220,30	6
18	18	92	32	106180	221,20	238,40	278,10	8	..Cr1,5	233,20	250,60	290,30	8
20	20	104	38	106200	247,00	266,50	313,60	8	..Cr2,0	259,10	278,60	325,70	8
25	25	121	45	106250	461,80	495,30	573,40	8	..Cr2,0	473,80	507,30	585,40	8

MAX MQL AIR Pag.251	901	HMG	PARAMETRI DI TAGLIO (Cutting data) Pag.96-97			
			Steel <800 N/mm ²	Steel <1000 N/mm ²	Steel <1300 N/mm ²	Steel 12% Cr
		●	Vc 176	Vc 143	Vc 110	Vc 55



113 Frese a quattro taglienti serie normale

113 Cr Frese a quattro taglienti serie normale con Corner Radius



- MG Co10
-
- 6527L 6528
- $\lambda 30^\circ$
-
- 90°



- MG Co10
-
- 6527L 6528
- $\lambda 30^\circ$
-
- Cr



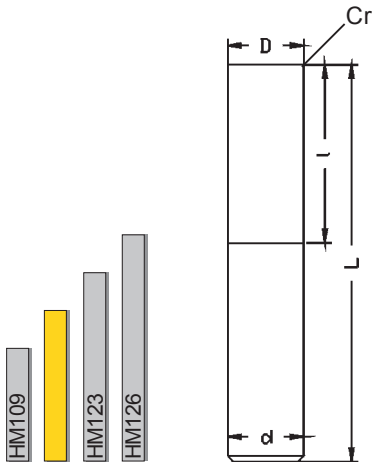
D	d	L	l	113	Uncoated	Futura	Alcra	Z	Cr	Uncoated	Futura	Alcra	Z
					HMO	HMF	HMG			HMO	HMF	HMG	
h10	h6				€	€	€			€	€	€	
2	3	38	7	113020	25,30	29,90	38,70	4					
2,5	3	38	8	113025	25,30	29,90	38,70	4					
3	3	38	8	113030	22,00	26,50	35,10	4	..Cr0,3	26,70	31,30	40,10	4
3,5	4	50	10	113035	23,00	27,80	36,40	4					
4	4	50	11	113040	19,00	23,70	33,40	4	..Cr0,3	23,70	28,70	38,40	4
									..Cr0,5	23,70	28,70	38,40	4
4,5	5	50	11	113045	25,40	30,80	41,30	4					
5	5	50	13	113050	22,10	27,40	37,90	4	..Cr0,5	26,90	32,30	42,90	4
5,5	6	57	13	113055	28,10	33,60	44,80	4					
6	6	57	13	113060	24,40	30,00	41,00	4	..Cr0,5	29,30	34,80	46,10	4
									..Cr0,8	29,30	34,80	46,10	4
6,5	7	60	16	113065	37,30	43,90	57,70	4					
7	7	60	16	113070	32,30	39,00	52,40	4					
7,5	8	63	19	113075	42,10	48,90	62,90	4					
8	8	63	19	113080	36,60	43,30	57,10	4	..Cr0,5	42,70	49,40	63,50	4
									..Cr0,8	42,70	49,40	63,50	4
8,5	9	67	19	113085	49,10	57,70	72,70	4					
9	9	67	19	113090	44,50	53,00	65,90	4					
9,5	10	72	22	113095	62,60	71,10	88,70	4					
10	10	72	22	113100	54,30	62,80	80,10	4	..Cr0,5	60,40	68,90	86,50	4
									..Cr1,0	60,40	68,90	86,50	4
11	11	83	26	113110	64,70	76,80	101,80	4					
12	12	83	26	113120	74,40	86,60	112,10	4	..Cr1,0	82,40	94,60	120,40	4
									..Cr1,5	82,40	94,60	120,40	4
13	13	83	26	113130	85,40	98,80	128,10	4					

113	HMG	●	PARAMETRI DI TAGLIO (Cutting data) Pag.96-97			
			Steel <800 N/mm ²	Steel <1000 N/mm ²	Steel <1300 N/mm ²	Steel 12% Cr
			Vc 176	Vc 143	Vc 110	Vc 55



113 Frese a quattro taglienti serie normale

113 Cr Frese a quattro taglienti serie normale con Corner Radius



- MG Co10
- 6527L 6528
- $\lambda 30^\circ$
- 90°



- MG Co10
- 6527L 6528
- $\lambda 30^\circ$
- Cr



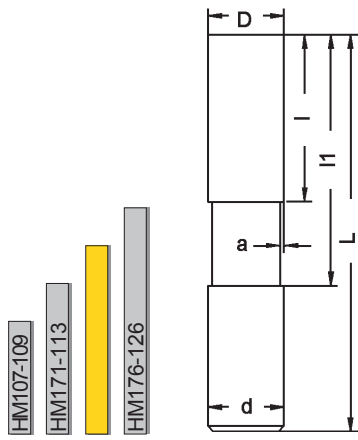
D	d	L	l	113	Uncoated	Futura	Alcrona	Z	Cr	Uncoated	Futura	Alcrona	Z
					HMO	HMF	HMG			HMO	HMF	HMG	
h10	h6				€	€	€			€	€	€	
14	14	83	26	113140	101,20	114,60	144,70	4	..Cr 1,5	109,20	122,50	152,90	4
15	15	92	32	113150	129,90	145,10	179,40	4					
16	16	92	32	113160	140,30	155,60	190,00	4	..Cr 1,5	148,20	163,50	198,40	4
18	18	92	32	113180	206,30	223,60	262,50	4	..Cr 1,5	216,20	233,50	272,50	4
20	20	104	38	113200	231,70	251,20	297,60	4	..Cr 2,0	241,40	260,90	307,30	4
25	25	121	45	113250	435,40	468,90	545,80	4	..Cr 2,0	445,30	478,80	555,70	4

113	HMG	●	PARAMETRI DI TAGLIO (Cutting data) Pag.96-97			
			Steel <800 N/mm ²	Steel <1000 N/mm ²	Steel <1300 N/mm ²	Steel 12% Cr
			Vc 176	Vc 143	Vc 110	Vc 55



173 Frese a due taglienti serie media

123 Frese a quattro taglienti serie media



$\alpha = 0,1-0,2$

- MG Co10
- Silmax Norm
- $\lambda 30^\circ$
- 90°



- MG Co10
- Silmax Norm
- $\lambda 30^\circ$
- 90°



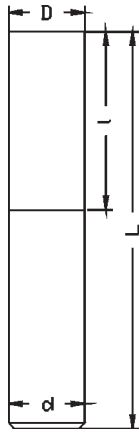
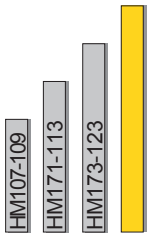
					Uncoated Futura Alcrona									Uncoated Futura Alcrona			
D	d	L	l	l1	173	HMO	HMF	HMG	Z	123	HMO	HMF	HMG	Z			
h10	h6					€	€	€			€	€	€				
3	3	62	14		173030	24,30	30,60	42,30	2	123030	26,70	33,10	44,80	4			
4	4	62	16		173040	23,70	29,30	40,30	2	123040	26,30	31,80	42,90	4			
5	5	62	20		173050	25,10	30,50	41,70	2	123050	30,00	35,40	46,80	4			
6	6	78	20	30	173060	30,50	37,30	51,90	2	123060	34,20	40,90	55,80	4			
7	7	78	24	34	173070	40,20	47,40	62,70	2								
8	8	78	25	35	173080	43,90	51,20	66,70	2	123080	46,30	53,70	69,20	4			
9	9	78	25	35	173090	54,90	63,50	80,50	2								
10	10	105	28	48	173100	68,30	82,40	111,50	2	123100	72,00	86,00	115,30	4			
11	11	105	28	48	173110	75,50	89,10	118,40	2								
12	12	105	32	52	173120	89,00	103,10	133,10	2	123120	92,00	106,20	136,30	4			
13	13	105	32	52	173130	95,20	111,00	144,70	2								
14	14	105	32	52	173140	140,90	156,70	192,60	2	123140	145,10	160,90	197,10	4			
15	15	130	40	60	173150	146,30	162,80	200,40	2								
16	16	130	40	60	173160	175,00	193,90	236,80	2	123160	177,40	196,30	239,50	4			

		PARAMETRI DI TAGLIO (Cutting data) Pag.96-97				
		Steel <800 N/mm²	Steel <1000 N/mm²	Steel <1300 N/mm²	Steel 12% Cr	
173	HMG	●	Vc 123	Vc 100	Vc 77	Vc 39
123	HMG	●	Vc 120	Vc 97	Vc 75	Vc 37



176 Frese a due taglienti serie lunga

126 Frese a quattro taglienti serie lunga



- MG Co10
-
- Silmax Norm
- $\lambda 30^\circ$
-
- 90°



- MG Co10
-
- Silmax Norm
- $\lambda 30^\circ$
-
- 90°



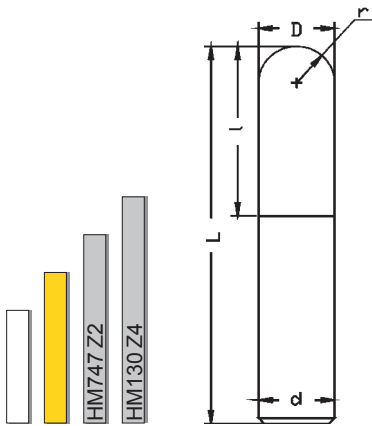
D	d	L	l	176	Uncoated	Futura	Alcrona	z	126	Uncoated	Futura	Alcrona	z
					HMO	HMF	HMG			HMO	HMF	HMG	
h10	h6				€	€	€			€	€	€	
4	4	80	32	176040	32,90	39,50	50,70	2	126040	33,10	39,70	51,90	4
6	6	105	42	176060	40,90	51,20	70,50	2	126060	44,50	54,90	74,40	4
8	8	105	50	176080	54,90	65,90	86,50	2	126080	57,90	68,90	89,60	4
10	10	120	50	176100	85,40	99,90	128,10	2	126100	90,30	104,80	133,10	4
12	12	160	65	176120	115,90	138,40	180,50	2	126120	119,50	142,00	184,40	4
14	14	160	70	176140	178,00	202,90	253,60	2	126140	181,70	206,60	257,30	4
16	16	160	70	176160	218,90	247,60	304,60	2	126160	221,90	250,60	308,00	4

MAX MQL AIR Pag.251	PARAMETRI DI TAGLIO (Cutting data) Pag.96-97	Steel			
		<800 N/mm ²	<1000 N/mm ²	<1300 N/mm ²	Steel 12% Cr
176 HMG	●	Vc 88	Vc 72	Vc 55	Vc 28
126 HMG	●	Vc 97	Vc 79	Vc 61	Vc 30



737 Frese semisferiche serie normale

131 Frese semisferiche serie normale



- MG Co10
-
- Silmax Norm
- $\lambda 30^\circ$
-
-



- MG Co10
-
- Silmax Norm
- $\lambda 30^\circ$
-
-



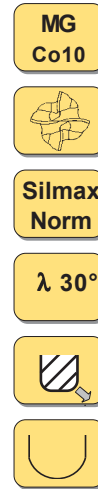
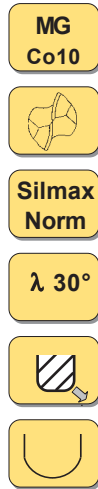
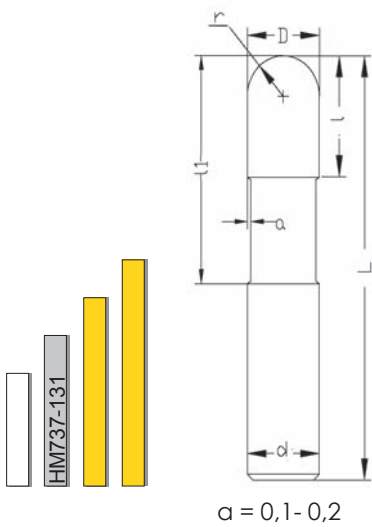
D	d	L	l	r	737	Uncoated	Futura	Alcra	z	131	Uncoated	Futura	Alcra	z
						HMO	HMF	HMG			HMO	HMF	HMG	
h10	h6					€	€	€			€	€	€	
2	3	38	5	1,0	737020	38,40	43,30	52,40	2	131020	38,40	43,30	52,40	4
2,5	3	38	7	1,25	737025	35,40	40,30	49,30	2	131025	36,80	41,70	52,00	4
3	3	38	7	1,5	737030	31,80	36,60	45,40	2	131030	38,20	43,00	53,60	4
3,5	4	50	7	1,75	737035	32,30	37,30	47,40	2					
4	4	50	8	2,0	737040	28,10	33,00	43,00	2	131040	35,40	40,30	50,70	4
5	5	50	10	2,5	737050	30,00	35,40	46,10	2	131050	37,30	42,70	53,80	4
6	6	57	10	3,0	737060	33,00	38,40	50,00	2	131060	41,50	47,00	58,90	4
7	7	60	13	3,5	737070	42,70	50,00	64,00	2	131070	47,60	54,90	69,20	4
8	8	63	16	4,0	737080	43,90	50,70	64,70	2	131080	51,90	58,60	73,00	4
9	9	67	16	4,5	737090	55,60	63,50	79,50	2	131090	58,30	66,20	80,50	4
10	10	72	19	5,0	737100	61,60	70,10	87,80	2	131100	65,90	74,40	92,20	4
11	11	83	22	5,5	737110	80,50	93,30	117,70	2	131110	80,50	93,30	117,70	4
12	12	83	22	6,0	737120	87,80	99,90	126,10	2	131120	92,70	104,80	131,30	4
13	13	83	22	6,5	737130	111,60	126,20	155,70	2	131130	118,30	133,00	162,70	4
14	14	83	22	7,0	737140	123,20	136,60	167,80	2	131140	131,10	144,50	176,00	4
15	15	92	26	7,5	737150	139,70	156,10	189,50	2	131150	145,10	161,60	195,40	4
16	16	92	26	8,0	737160	175,00	190,30	226,50	2	131160	182,90	198,20	235,00	4
18	18	92	26	9,0	737180	268,20	282,30	333,00	2	131180	304,60	318,00	373,10	4
20	20	104	32	10,0	737200	301,10	317,10	377,60	2	131200	342,00	357,20	423,20	4

MAX MQL AIR	Pag. 251	PARAMETRI DI TAGLIO (Cutting data) Pag. 96-97	Steel <800 N/mm ²	Steel <1000 N/mm ²	Steel <1300 N/mm ²	Steel 12% Cr
			737	HMG	●	Vc 360
131	HMG	●	Vc 360	Vc 293	Vc 225	Vc 113



747 Frese semisferiche serie media

130 Frese semisferiche serie lunga

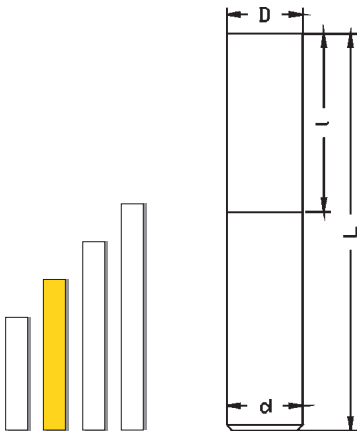


						Uncoated Futura Alcrona											
D	d	L	l	ll	r	747	HMO	HMF	HMG	Z							
h10	h6						€	€	€								
4	4	62	16		2,0	747040	38,40	45,20	57,70	2							
5	5	62	20		2,5	747050	40,90	46,30	58,30	2							
6	6	78	20	30	3,0	747060	47,20	54,70	69,60	2							
8	8	78	25	35	4,0	747080	59,80	67,80	83,90	2							
10	10	105	28	48	5,0	747100	88,60	103,30	131,40	2							
12	12	105	32	52	6,0	747120	119,50	134,80	165,80	2							
16	16	130	40	60	8,0	747160	237,80	255,50	298,40	2							
											Uncoated Futura Alcrona						
D	d	L	l		r	130	HMO	HMF	HMG	Z							
h10	h6						€	€	€								
6	6	105	42		3,0	130060	57,90	65,20	80,70	4							
8	8	105	50		4,0	130080	72,60	80,50	97,40	4							
10	10	120	50		5,0	130100	101,40	115,90	144,80	4							
12	12	160	65		6,0	130120	142,30	162,20	205,00	4							
14	14	160	70		7,0	130140	183,50	208,50	259,40	4							
16	16	160	70		8,0	130160	256,00	284,70	341,70	4							
18	18	160	70		9,0	130180	338,30	364,40	376,47	4							
20	20	160	70		10,0	130200	410,00	437,90	450,80	4							

		PARAMETRI DI TAGLIO (Cutting data) Pag.96-97				
		Steel <800 N/mm²	Steel <1000 N/mm²	Steel <1300 N/mm²	Steel 12% Cr	
747	HMG	●	Vc 312	Vc 254	Vc 195	Vc 98
130	HMG	●	Vc 312	Vc 254	Vc 195	Vc 98



013F Fresa a sgrassare con rompitruciolo



MG
Co10



6527L

λ 30°



45°



D	d	L	l	013F	Uncoated	Futura	Alcrona	Z
					HMO	HMF	HMG	
h11	h6				€	€	€	
5	6	57	13	013F05	41,50	44,90	50,60	4
6	6	57	13	013F06	48,10	51,80	57,50	4
7	7	60	16	013F07	65,60	71,00	78,40	4
8	8	63	19	013F08	61,80	67,40	74,60	4
9	9	67	19	013F09	82,50	89,60	108,00	4
10	10	72	22	013F10	79,40	87,80	106,20	4
11	11	83	26	013F11	104,80	117,30	143,00	4
12	12	83	26	013F12	98,80	111,00	137,70	4
13	13	83	26	013F13	148,30	165,10	201,60	4
14	14	83	26	013F14	144,50	160,30	196,50	4
15	15	92	32	013F15	182,20	196,40	235,70	4
16	16	92	32	013F16	176,80	192,10	228,50	4
18	18	92	32	013F18	234,00	251,90	285,40	4
20	20	104	38	013F20	268,30	287,70	336,10	4

013F	HMG	MAX MQL AIR Pag.251	PARAMETRI DI TAGLIO (Cutting data) Pag.96-97			
			Steel <800 N/mm ²	Steel <1000 N/mm ²	Steel <1300 N/mm ²	Steel 12% Cr
			Vc 141	Vc 114	Vc 88	Vc 44

Gruppo	Nr	DIN	Gruppo	Nr	DIN
Steel < 800 N/mm²	Non legati < 800 N/mm ²	1.1231 Ck67 1.1248 Ck75 1.1274 Ck101 1.0402 C22 1.0406 C25 1.0501 C35 1.0503 C45 1.1133 20Mn5	Legati < 800 N/mm ²	1.5026 55Si7 1.7176 55Cr3 1.8159 50CrV4 1.3505 100Cr6 1.6546 40NiCrMo2 2 1.7218 25CrMo4 1.7220 34CrMo4 1.7223 41CrMo4	
	Legati < 800 N/mm ²	1.7015 15Cr3 1.5752 14NiCr14 1.5919 15CrNi6 1.6523 21NiCrMo2 1.6587 17CrNiMo6 1.7131 16MnCr5			
Steel < 1000 N/mm²	Non legati < 1000 N/mm ²	1.0535 C55 1.0601 C60 1.1203 Ck55 1.1206 Ck50 1.1221 Ck60 1.1157 40Mn4 1.1165 30Mn5 1.1167 36Mn5 1.1170 28Mn6	Legati < 1000 N/mm ²	1.7225 42CrMo4 1.8159 50CrV4 1.7045 42Cr4 1.8507 34CrAlMo5 1.8509 41CrAlMo7 1.8515 31CrMo12	
	Legati < 1000 N/mm ²	1.5710 36NiCr6 1.5755 31NiCr14 1.6511 36CrNiMo4 1.7033 34Cr4 1.7034 37Cr4 1.7035 41Cr4 1.7218 25CrMo4 1.7220 34CrMo4 1.7223 41CrMo4		Acciai legati per utensili Ghisa	1.2067 100Cr6 1.2330 35CrMo4 1.2332 47CrMo4 1.2510 100MnCrW4 1.2516 120WV4 1.2542 45WCrV7 1.2833 100V1 1.2842 90MnCrV8 0.6015 GG-15 0.6010 GG-10 0.6020 GG-20
Steel < 1300 N/mm²	Legati < 1300 N/mm ²	1.5710 36NiCr6 1.6511 36CrNiMo4 1.6580 30CrNiMo8 1.6582 34CrNiMo6 1.7220 34CrMo4 1.7223 41CrMo4 1.7225 42CrMo4 1.7361 32CrMo12 1.8159 50CrV4	Acciai legati per utensili	1.2311 40CrMnMo7 1.2344 X40CrMoV5 1 1.2365 X32CrMoV3 3 1.2581 X30WCrV9 3 1.2343 X38 CrMoV5 1 1.2344 X40CrMoV5 1 1.2714 56NiCrMoV7	
					Ghisa
12% Cr	Acciai legati per utensili	1.2080 X210Cr12 1.2436 X210CrW12 1.2601 X165CrMoV12 1.2706 X3NiCrMo18 8 5 1.2709 X2NiCoMoTi18 9 5 1.2201 X165CrV12 1.2376 X96CrMoV12 1.2379 X155CrMo12 1 1.2609 X165CrVMo12 1 1.2631 X50CrMoW9 1 1 1.2880 X165CrCoMo12	Acciai resistenti al calore	1.4914 - 1.4920 X15CrMo12 1 1.4924 - 1.4718 X45CrSi9 3 1.4845 X12CrNi25 21 1.4878 X12CrNiTi18 9 1.4742 X10CrAl18 1.4923 X22CrMoV12 1	